

ABSTRACT

After forming domain inverted layers 3 in an  
LiTaO<sub>3</sub> substrate 1, an optical waveguide is formed. By  
5 performing low-temperature annealing for the optical  
wavelength conversion element thus formed, a stable  
proton exchange layer 8 is formed, where an increase in  
refractive index generated during high-temperature  
annealing is lowered, thereby providing a stable optical  
10 wavelength conversion element. Thus, the phase-matched  
wavelength becomes constant, and variation in harmonic  
wave output is eliminated. Consequently, with respect to  
an optical wavelength conversion element utilizing a non-  
linear optical effect, a highly reliable element is  
15 provided.